

Baldy Peak Timber Sale Implementation Monitoring Review June 30, 2006

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On June 30, 2006, a multi-disciplinary team conducted an implementation monitoring review of the Baldy Peak Timber Sale. The objectives of the review were to:

- 1) Evaluate the implementation and effectiveness of the Baldy Peak Timber Sale goals, objectives, standards and guidelines in the form of EA mitigation measures, contract clauses, BMP's, or other applicable sources.
- 2) Provide recommendations and a feedback loop from the Baldy Peak Timber Sale for future projects concerning appropriateness of standards, guidelines, EA measures, and contract provisions.

The Baldy Peak Timber Sale EA was released on 12/3/1998. The Baldy Timber sale contract #02-018099 was authorized in a Decision Notice and FONSI 5/6/1999, and awarded on 12/20/1999. The Sale contractor is Pyramid Mountain Lumber Inc. of Seeley Lake, Montana. The sale contract terminates on 7/31/2006. Total sale volume in the DN was 1.93 MMBF on 357 acres with the logging being done in 16 tractor units, 2 skyline (cable) units, and 1 skyline swing yarding specified unit. About 1.1 miles of new specified road construction and 3.0 miles of road reconstruction (spot surfacing, and some new drainage structures) were included in the contract.

The purpose of the Baldy Peak Timber sale (EA and DN) was to:

- 1) Help facilitate Big Sky Land Exchange process in which timber sale receipts were collected from several sales to purchase part of the lands which were conveyed to the GNF.
- 2) Contribute to the flow of wood products (sawlogs and firewood) from National Forest lands.
- 3) Maintain a healthy and sustainable forested ecosystem by managing the ecosystem through timber stands and prescribed fire.

The process for this review consisted of the following:

- 1) Identification and listing of soil and water BMP's, wildlife, administrative layout, and fuels evaluation items for the review. Sources included the Baldy Peak Timber sale EA and DN, sale contract, Montana Forestry BMP's, and R1/R4 Soil and Water Conservation Practices (BMP's) from the Timber Sale EA.
- 2) Field review of units 4, 5, 5A, 5C, 5TR, 6A, 7, 9, 9S, and 10. Review of specified, reconstructed roads, and temporary roads (#2532, and #2533).

- 3) Team ratings (consensus) for application and effectiveness of BMP's observed at the reviewed units and road segments.
- 4) Team recommendations for future GNF timber sale projects.

Rating items, application and effectiveness items include:

BMP Application

- 5- operation exceeds requirements of BMP
- 4- operation meets requirements of BMP
- 3- minor departure from BMP
- 2- major departure from BMP
- 1- gross neglect of BMP

BMP Effectiveness

- 5- improved protection of soil and water resources over pre-project condition
- 4- adequate protection of soil and water resources
- 3- minor and temporary impacts on soil and water resources
- 2- major and temporary or minor and prolonged impacts on soil and water resources
- 1- major and prolonged impacts on soil and water resources

BMP Definitions (for Timber Harvesting and Specified Road BMP's)

Adequate - small amount of material eroded, does not reach draws, channels, or floodplain

Minor - erosion and delivery of material to draws but not stream

Major - erosion and subsequent delivery of sediment to stream or annual floodplain


Temporary - impacts lasting 1 year or less, no more than 1 runoff season

Prolonged - impacts lasting more than 1 year

| Evaluation Item - BMP | source | Applic | Effect | Comments |
|--|--------------------------------------|--------|--------|---|
| Timber Harvesting BMP's | | | | |
| 1. suitable logging systems for topography, soils, and season | Montana Forestry BMP's | 4 | 4 | skid trails in unit 9 need erosion protection |
| 2. no riparian harvesting | EA pg. 6 BSL planning criteria | 4 | 4 | riparian areas excluded in sale design |
| 3. tractor skidding and cable yarding is allowed only on frozen ground or up to 14" settled snow | CT6.4 Conduct of Logging | 4 | 3 | 2 skid trail areas in Unit 9 not frozen resulting in some soil displacement |
| 4. tractor skid roads 75' apart except where converging | CT6.4 Conduct of Logging | 4 | 4 | |
| 5. skidding not within 50' of streams and not in live or intermittent stream courses | CT6.6 Erosion Prevention and Control | na | na | no perennial streams in the sale area |

| | | | | |
|--|--|----|----|---|
| 6. no side casting of road material into streams. Enter SMZ only as needed to construct crossings | Montana Forestry BMP's | 4 | 4 | |
| 7. no slash in streams | Montana Forestry BMP's | na | na | |
| 8. design and locate skid trails to avoid concentrating runoff, adequate drainage for skid trails | Montana Forestry BMP's | 4 | 4 | -generally did not need skid trail water bars |
| 9. exclude handling, storage, application, of hazardous/toxic material in SMZ in a manner that pollutes/damages water | Montana Forestry BMP's Practice 15.11 | na | na | |
| 10. seed exposed areas on skid trails, landings, temp roads. 44# of seed/acre | C6.601, Practice 13.04 | 4 | 3 | - sale administrator did not require seeding of skid trails - seed trails in unit 9 - generally good judgment on when to seed - some minor erosion on skid trails and temp road hence 4/3 rating |
| 11. skidding operations minimize soil compaction & displacement | Montana Forestry BMP's | 4 | 4 | winter logging, about 10% overall soil disturbance |
| 12. adequate drainage for skid trails | Montana Forestry BMP's | 4 | 4 | good judgment used by sale administrator |
| 13. suitable location, size, and number of landings; landings >100' from streams & riparian areas; adequate drainage of landings | Montana Forestry BMP's | 4 | 4 | Unit 4 landing put in upper section of the unit by using existing road then closing - reused landings by Unit 7 |
| Roads | | | | |
| 1. minimize number of roads necessary, minimum standard to accommodate use | Montana Forestry BMP's Practice 15.02 | 4 | 4 | additional road added in unit 4 to reduce landing impact |
| 2. road locations avoid high-hazard sites (wet areas, unstable slopes) | Montana Forestry BMP's Practice 15.02 | 4 | 4 | NEPA adequacy issues raised with refurbished road in Unit 4 |
| 3. provide effective sediment control on erodible fill slopes | Montana Forestry BMP's | 4 | 4 | |
| 4. maintain erosion control features (dips, ditches, culverts on roads 2532, 2532A, 2533) | Montana Forestry BMP's Practice 15.07 CT5.4, CT15.21 | 4 | 4 | access road outside the sale boundary bladed, drained satisfactorily |
| 5. snow removal must leave 4" of snow to protect road surface | CT5.46 Snow Removal | 4 | 4 | to protect road surface during snow plowing |



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|--|---|----|----|---|
| 6. avoid use of roads during wet periods and spring breakup | Montana Forestry BMP's | 4 | 4 | winter season ends 3/15 |
| 7. Spec road #2533 construction during NOS (7/10-11/15) unless FS authorized in writing | CT5.23# Control of Construction | 4 | 4 | required during non-winter |
| 8. scarify temporary roads 4" to 14" not when wet or frozen | C6.623 Practice 15.25 | na | na | rehabilitation of temp road not done until fuel and firewood is completed |
| 9. temporary roads obliterated by draining, blocking, revegetation; side slopes reshaped and stabilized | Practice 15.25 (not in contract) | na | na | rehabilitation of temporary roads not done until fuel and firewood is completed |
| Recreation | | 4 | 4 | |
| 1. protect Livingston Peak trail by leaving more trees adjacent to trail, and protect location | EA 1-4 BT 6.22 Protection of Improvements | 4 | 4 | |
| 2. hauling restricted on weekends (3pm Fri to Sun 12pm) & holidays | BT5.12/CT6.12 Protection of Improvements EA 1-4 | 4 | 4 | |
| Weeds | | 4 | 4 | |
| 1. harvest over frozen and snow covered ground | EA 1-5 CT6.4 | 4 | 4 | |
| 2. all logging and construction equipment cleaned prior to sale entry | EA 1.6 CT6.22 CT6.4 | 4 | 4 | no knapweed in units |
| 3. all exposed areas on skid trails, landings, and temporary roads seeded within 30 days following completion. | EA 1-6 CT 6.601 | 4 | 2 | weeds in landings, particularly thistles in Unit 4 lower landing apparently not introduced from sale activities. Landings were not seeded |
| 4. temporary road ripped & seeded upon completion of use | EA 11-4 | na | na | rehabilitation of temporary roads will not be done until fuel  firewood is completed |

Some key review findings are illustrated in the following photos:



Unit 4 was winter-logged in 2000/2001 with whole-tree yarding and tractor skidding. The winter logging treatment had very little soil disturbance with a few disturbed spots due to snow displacement and soil exposure. The unit was not scarified as the objectives did not include regeneration augmentation. Overall soil disturbance was estimated at about 5% which is well within the USFS R1 15% soil disturbance standard.



Road used to access the upper end of Unit 4. Use of this road was not originally planned in the sale but the road prism was used to reduce skidding down the entire length of Unit 4. The road was re-opened and bladed in 2001. Approximately 50 log truck loads were hauled over the road. Subsequently, the road was closed and seeded—also in 2001. No additional drainage work was necessary. Vegetation recovery has been robust with no areas of evident erosion.



Landing in the lower end of Unit 4. This landing was located on steeper ground than desired resulting in more ground disturbance than planned, hence the decision to put an additional landing in the upper end of Unit 4. This landing has thistle growth, although thistle was present in the Baldy TS area prior to the sale. No essential KV from the sale is available for weed treatment so additional weed treatments will need to come from project funds.



Temporary road constructed to access Unit 5. The C 6.623 clause did not provide specific authority in the Baldy TS sale contract to decommission this road. This road is not yet available for closure since firewood removal is not complete. When road use is completed the road could be closed with re-contouring or ripping/slash/seeding. The re-contouring treatment has the best long-term potential for road obliteration but would expose more soil area for potential weed establishment. The ripping/slash/seeding treatment would be less expensive and would reduce weed establishment potential, but would leave the road prism in place.



Skid trail used to access Unit 10 which was harvested in January and February of 2006. Approximately 200-300 skidder passes (whole tree yarding) occurred on this trail which is below a convergence of 2 skid trails above. Winter logging (snow cover protection) satisfactorily protected soils. Overall soil disturbance was judged to be less than 15% and in compliance with the USFS R1 15% soil disturbance standard. The timber sale administrator reviewed this skid trail the following spring (April 2006) and judged that additional scarification and water bar construction were not necessary.



Skid trail in Unit 9. Tractor skidding was attempted in this unit during February 2006 but was voluntarily halted by the contractor after 3 passes since the ground was not completely frozen. Soil disturbance was much greater than the skid trail in Unit 10. The exposed area, however, does not show evidence of erosion and is only lightly compacted with extensive organic material on the surface. The sale administrator decided against putting more equipment on this slope for water bar construction. The lower end of this skid trail, however, is quite vulnerable to soil erosion where it joins Road #2533 and is recommended for slashing.

Conclusions

1. Overall, the Baldy Timber Sale provided adequate erosion protection. The winter logging over snow-covered and frozen ground greatly reduced potential ground disturbance. The lack of site preparation resulted in very limited soil disturbance. Vegetation recovery of logged and disturbed sites (skid trails and roads) has been robust.
2. The USFS R1 15% soil disturbance standard was met in all of the areas examined. Potential soil disturbance (compaction, displacement, smearing) was judged to be less than 10% overall

in the Baldy Timber sale area. This was accomplished by use of the existing road network with limited new construction, winter logging (which greatly reduces soil damage potential), and at least a 75' spacing between skid trails.

3. No evidence of water quality impacts occurred from the Baldy Timber sale. Although the sale has no perennial streams, a few small ephemeral tributaries occur in the lower end of the sale along road #2533. Water quality protection BMP's (no riparian harvesting, no side casting of road material into streams, no slash in streams) were very effective.

4. The lower landing in Unit 4 had high potential site impacts, but actual impacts were minimized by locating a second landing in the upper part of the unit. The lower landing is currently affected by weed thistle growth. No provision in the sale contract requires weed treatments after unit acceptance.

5. The winter logging C6.623 provision for logging when snow is between 4" and 14" worked well although snow frequently exceeded 14" with no adverse constraints on logging operations.

6. Skid trails in the winter had generally light impact with no need to require spring water bar construction, which would have increased site impact. The one exception is the skid trail in Unit 9 which needs slash placement in the lower end to reduce erosion potential until the trail re-vegetates.

7. The recreation/visual/ABW Wilderness considerations and constraints were satisfactorily met with no complaints to the Livingston District. This was achieved primarily by the concentration of logging activity in winter, protection of the Livingston Peak trail by not operating near the trail, and hauling restrictions on weekends and holidays. The uneven residual tree spacing provided acceptable visual results as the sale treatments are hard to discern from a distance.

Recommendations

1. The main resource issue with the Baldy Timber sale is the increased presence of weeds in disturbed areas. Many of the weed treatment needs are more evident after the units are accepted and the contract closes. Appropriate treatments need to comply with the GNF Weeds EIS provisions and may need NFVW funding augmentation. To the extent possible, in future sales, KV funding should be used for post sale contract weed treatments. The lower landing in Unit 4 is the most obvious area on the Baldy Timber Sale which needs additional weed treatment.

2. The temporary road constructed to access Unit 5, which was not specifically authorized to be obliterated in the sale contract, should be decommissioned after the post-sale activity (primary firewood removal) by re-contouring or ripping/slash/seeding. Re-contouring has the best long-term potential for site reclamation but would expose more soil area for potential weed establishment. The ripping/slash/seeding treatment would be less expensive and would reduce weed establishment potential but would leave the road prism in place. In future sales, we recommend specific authorization and requirements for temporary road obliteration per the C6.623 clause to avoid net increase of road mileage. In future sales, existing project and/or specified roads could also be decommissioned once the project uses of the roads (fuel treatments, reforestation, firewood etc.) are complete.

3. In future timber sales, some members of the review team recommend allowing maximum road management flexibility for the sale administrator and District Ranger. It is difficult to

anticipate all potential road network needs during NEPA and sale layout, and some relocation or minor additional road needs will occur as the sale contract is implemented. Opportunities may occur in future sales to improve the planned road alignments or re-use old roads. To the extent possible, the road network should be anticipated and disclosed in the NEPA process, but it is realistic to anticipate that some change may be appropriate and advantageous. An example is the re-use of the road in Unit 4 which resulted in very little net impact to the road itself, and reduced skidding and landing impacts in the lower part of the unit. Substantial road plan changes, especially if more roads are needed, may need to be evaluated in a NEPA Section 18, FSH 1909.15 to ensure that the effects are consistent with the NEPA analysis and decision.

4. The lower skid trail in Unit 9 should be slashed as discussed previously in this report.
5. Tractor operations in the winter do not need to be limited to a maximum of 14" of snow. Cable operations maximum snow may be around 24-36" but maximum allowable snow will vary on a case-by-case basis, depending on safety concerns.
6. The review team felt that the Baldy Peak Timber Sale administrator, Steve Martell, should be commended for doing a very conscientious job of sale administration and resource protection. Steve provided consistent and thorough oversight of the sale operation, used excellent judgment in minimizing ground disturbance, and maintained good communications and thorough documentation between the sale contractor and the Livingston District.